

REMARKS/ARGUMENTS

Claims 1-34 are pending in the application. Claims 1-11 and 22-34 are under examination and have been rejected. Claims 12 through 21 have been withdrawn from consideration as being directed to a non-elected species of the invention.

In this Response, claims 1, 10 and 32-34 are amended to more clearly recite the invention. The claim amendments are entirely supported by the application as filed and thus they raise no issue of new matter. Their entry is respectfully requested.

Upon such entry, claims 1-34 as amended will be pending in the application.

Claim Rejections Under 35 U.S.C. §112

Claims 1-11 and 22-34 are rejected under 35 USC 112, second paragraph, as being allegedly indefinite.

In response, claims 1, 10 and 32 have been amended in a manner that is believed to overcome the grounds of rejection. Furthermore, in reviewing the claims applicants noted that nos. 32 through 34 were written as “Use” claims. These claims have, thus, been amended to convert them into method claims. No new matter is added by any of the amendments.

The Examiner is, thus, respectfully requested to reconsider and withdraw the rejections of applicants’ claims under 35 USC 112, second paragraph.

Claim Rejections Under 35 U.S.C. §103

Claims 1-11 and 22-34 are rejected under 35 U.S.C. 103 as being allegedly unpatentable over USP 5,013,576 to Nakazawa, et al. taken together with USP 2,859,113 to Goodfriend or JP 2000279086 for the reasons given in ¶4 on pp. 3-4 of the Office Action. The rejection is respectfully traversed for the reasons below.

Turning first to a discussion of the Nakazawa et al. reference (hereinafter “Nakazawa”), the subject reference is directed to solving the technical problem of providing a gourd fruit powder composition wherein the grassy smell particular to the gourd is inhibited, as is the tendency of the composition to stick to the teeth or teethridges of one who ingests it. The presently claimed formulations are, thus, distinguishable from Nakazawa in that, in contrast to the intended use of the Nakazawa composition, they are adapted to permit the production of an

instant beverage which is tooth-friendly and which does not contain carbohydrates that tend to be fermented by the oral flora found in the mouth of one ingesting the composition but which, nevertheless, has a pleasantly sweet taste. The technical problem noted above is solved according to the present invention by providing an instant beverage powder, according (for example) to present claim 1, which comprises $\geq 90\%$ by weight, based on the total amount, of isomaltulose as a carrier, $\leq 5\%$ by weight, based on the total amount, of water, 0.1% by weight to 5% by weight, based on the total amount, of at least one of an extract of plants and plant parts, and 0.1% by weight to 5% by weight, based on the total amount, of urea or a urea derivative added as a buffering additive.

As indicated above, therefore, Nakazawa is attempting to solve a completely different problem than that faced by the present inventors, i.e., the invention described by the reference relates to a completely different field of endeavor than that which applicants are dealing with in the case of the present invention. In applicants' view, this is one factor that supports their contention that neither Nakazawa by itself, or in combination with one, or even both, of the cited 'secondary' references, renders the present claims obvious (see the further discussion below in this regard).

It should be additionally noted, moreover, that compositions produced according to the teachings contained in the Nakazawa reference must include, as an essential component for the production of a beverage powder, gourd fruit and creaming syrup (see, e.g., col. 3, lines 59-61). Only in addition to these 'essential components' does the reference disclose the addition of, 'weight-adjusting agents', which may (i.e., optionally) include sugars such as fructose, glucose or isomaltulose (i.e., palatinose). That is, isomaltulose is not mentioned as a required component of the compositions taught for use by Nakazawa. Therefore, the material may not even be present in a composition prepared according to the teachings of the subject reference.

As further noted above, Nakazawa additionally deals with the technical problem of inhibiting the stickiness of food compositions, for which purpose L-ascorbic acid is used. Also, the reference additionally discloses a methodology of inhibiting the precipitation of gourd fruit powder in beverage compositions by mixing a creaming syrup with water. However, in disclosing to one having ordinary skill in this art how to deal with all of the issues described above, Nakazawa nowhere teaches or even suggests that isomaltulose (i.e., palatinose) should be considered as a 'tooth friendly' sugar and that such material should be present in a high

percentage in an instant beverage powder (as is the case of the formulation(s) presently claimed by applicants). On the contrary, the Nakazawa reference does not make any distinction between the presence of 'tooth harmful' sugars such as fructose, sucrose and/or glucose and the 'tooth friendly' sugar isomaltulose (i.e., palatinose). The patent's only reference to isomaltulose is as a weight adjusting agent, which is taught for inclusion into the compositions disclosed by the reference in significantly lower amounts than are used in the case of applicants' presently claimed composition(s). Clearly, therefore, Nakazawa should not be construed to teach the use of isomaltulose as a carrier for the production of a tooth friendly instant beverage with a pleasant taste, that has advantageous characteristics insofar as its effect upon the teeth of one consuming the beverage. For the reasons above, therefore, Nakazawa does not teach or suggest to one having an ordinary degree of skill in the relevant art to provide an instant beverage powder with the aim to achieve acariogenic characteristics, having a pleasant, sweet taste.

Nor does the Goodfriend reference remedy the deficiencies of Nakazawa by supplying the elements of the presently claimed invention that are missing from Nakazawa such that the combination of the two references would suggest the presently claimed compositions and methods to one of ordinary skill in this field. Goodfriend discloses the addition of urea, among other materials, to beverages for inhibiting the development of tooth-harmful acids therein. Thus it is foreseen, according to Goodfriend, to use urea in order to render a beverage tooth-friendly. The reference, however, does not describe or otherwise refer to isomaltulose as a 'tooth-friendly' ingredient or otherwise serve to render obvious the use of such isomaltulose as a tooth friendly ingredient.

In contrast to Goodfriend, the technical problem which the present inventors are attempting to solve is the provision of an improved tooth-friendly sweet beverage. In the case of the presently claimed compositions and methods as noted above, the present inventors incorporate both isomaltulose and urea to provide a tooth-friendly beverage in that isomaltulose cannot be fermented by the bacterial flora found in the oral cavity. Further according to the present invention, urea is included in the composition due to its ability to improve the sweetness of the isomaltulose, not to inhibit the development of tooth-harmful acids in the beverage composition. See, e.g., p. 15, second paragraph, of the application as originally filed which teaches that, "The urea-containing instant beverage powders are distinguished by a particularly

sweet taste, that is to say urea or the urea derivatives reinforce the sweetening power of the palatinose [i.e., isomaltulose] in an advantageous manner.”.

One having ordinary skill in this art thus takes from the teachings contained in Goodfriend that urea is suitable for inhibiting the development of tooth-harmful acids, which are otherwise derived due to the fermentation of carbohydrates contained in foods. The reference does not teach, however, or even suggest that urea is capable of reinforcing in an advantageous manner the sweetening power of isomaltulose. Rather, in contrast, Goodfriend discloses that the inclusion of urea in beverages does not alter the taste of such beverages (see col. 2, lines 48-50).

Furthermore, Goodfriend discloses only to neutralize and thus weaken the tooth-harmful sugars and, by extension, the tooth-harmful acids that would otherwise be developed therefrom by the action of the oral flora. In contrast, however, as indicated above the present invention teaches one to include isomaltulose as a tooth-friendly sugar since isomaltulose cannot be fermented in the oral flora and thus, the development of tooth harmful acids is inhibited *a priori*. Urea is used according to the present invention, besides its acariogenic characteristic, for the purpose of reinforcing the pleasant sweet taste of isomaltulose in the instant beverage. For the reasons above, therefore, the Goodfriend reference does not render applicants’ claimed invention obvious, whether the reference is taken alone or in combination with Nakazawa.

Turning next to JP 2000-279086, the same applies. That is, the reference fails to supply the aspect(s) of the invention missing from the ‘primary’ Nakazawa reference. Thus it entirely fails to suggest the claimed compositions and methods, whether it is viewed alone or in combination with Nakazawa and/or Goodfriend.

The abstract of the subject Japanese reference discloses only the use of urea as a protein source. From this, one having ordinary skill in this field would not be taught that urea is capable of reinforcing the sweetening power of isomaltulose in an advantageous manner as described above. Furthermore, the skilled artisan also would not find taught or even suggested by the reference either that isomaltulose is a tooth-friendly sugar, or that there is the possibility that urea, in general, is able to reinforce the taste (in particular the sweet taste) of an instant beverage. Thus, as indicated the reference fails to teach or suggest applicants’ claimed compositions and methods, both when viewed alone and even when combined with one or both of Nakazawa and/or Goodfriend.

In summary, therefore, one of ordinary skill in this field of art would not consider either Goodfriend or JP 2000-279026, taken in combination with Nakazawa, as providing a solution for the technical problem answered by the present invention, namely the provision of an instant beverage powder which exhibits tooth-friendly characteristics and which provides a pleasant, sweet taste. The only manner, therefore, by which such an individual might arrive at the present invention by combining Nakazawa with either Goodfriend or JP 2000-279026 would be by the use of hindsight, based on applicants' own teachings as provided in the present application, which is entirely improper under the present law concerning obviousness rejections of the type made herein.

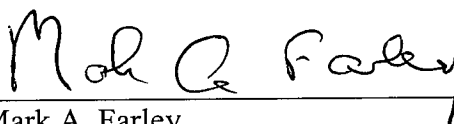
Furthermore, even if one were to make the combination proposed by the Examiner, this would still not render obvious the compositions and/or methods according to the present invention. This contention is based on applicants view that Nakazawa does not disclose or suggest the advantages use of isomaltulose as a tooth-friendly sugar as in the instantly claimed beverage, i.e., in the form of a carrier in a high weight percentage, i.e., ≥ 90 wt. %. Furthermore, neither Goodfriend nor JP 2000-279086 disclose or suggest the advantageous characteristics of urea to reinforce the sweetening power of isomaltulose. Therefore, even based on the combination of the cited references (which as indicated above applicants believe would not, anyway, be combined) one of ordinary skill still would not find a teaching or even a suggestion, of a solution to the problem solved by the present invention.

Thus, for the reasons set forth above, applicants respectfully request the Examiner to reconsider and withdraw the rejection of their claims under 35 USC 103.

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MAF:stb

Respectfully submitted,



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